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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,531	04/19/2001	George E. Stevenson	XTEN-1-1006	2136
25315	7590	08/11/2005	EXAMINER	
BLACK LOWE & GRAHAM, PLLC 701 FIFTH AVENUE SUITE 4800 SEATTLE, WA 98104			SINGH, DALZID E	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/839,531

Applicant(s)

STEVENSON ET AL

Examiner

Dalzid Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-36 is/are allowed.
- 6) ☒ Claim(s) 37-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 15 April 2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because element (150) of Fig. 1 is designated as optical detector. The structure of element (150) symbolizes amplifier. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because the structural element of figure 1 (250) is merely labeled with identifying numbers. Applicant must supply a suitable legend. A proposed drawing correction or corrected drawings are required in reply to the Office

action to avoid abandonment of the application (see 37 CFR 1.84(n) and 1.84(o)). The following are quotation of 37 CFR 1.84(n) and 1.84(o):

(n) *Symbols*. Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. **Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.**

(o) *Legends*. Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible.

The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 34 and 35 are objected to because of the following informalities:

claims 34 and claim 35 depend on itself respectively.

claim 51, recites "generating an infrared control signal according;"; it appears that the term "according" should be "accordingly".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 37-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borchardt et al (US Patent No. 5,383,044).

Regarding claim 37, Borchardt et al disclose method for transmitting an infrared control signal to a controlled device, as shown in Fig. 2, comprising:

- (a) receiving an infrared control signal (see col. 6, lines 39-42);
- (c) converting the signal to a radio frequency signal (see col. 6, lines 58-61);
- (d) transmitting the radio frequency signal (see col. 6, lines 58-61); and,
- (e) receiving the radio frequency signal (Fig. 3 shows receiving the radio frequency signal).

Borchardt et al differ from the claimed invention in that Borchardt et al do not specifically disclose augmenting the IR signal by adding an identifying signal resulting in an augmented electronic signal. However, in col. 7, lines 19-32 and lines 45-62, Borchardt et al disclose that the remote control commands input by the user are used by the microcomputer to access the appropriate code stored and generate a modulated signal. Since the signal is modulated with codes, therefore it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to represent the code as an identifying signal. One of ordinary skill in the art would have been motivated to do such in order to associate signal to a particular device.

Regarding claims 38, 52 and 66, as discussed above, Borchardt et al that the infrared detector generates a first electronic signal according to the received infrared control signal.

Regarding claims 39, 53 and 67, in col. 6, lines 12-54 and col. 7, lines 23-32, Borchardt et al disclose receiving an infrared control signal comprises retrieving (access) a first identifying signal and differ from the claimed invention in that Borchardt et al do not specifically disclose code register. However, since the codes are stored, therefore it would have been obvious that there exist registry to store such codes.

Regarding claims 40 and 54, in col. 6, lines 12-54 and col. 7, lines 19-22, Borchardt et al disclose receiving an infrared control signal comprises storing the first electronic signal in association with a function of the controlled device (it would have been obvious that the signal is associated with a function of the controlled device).

Regarding claims 41 and 55, in col. 6, lines 12-54 and col. 7, lines 23-32, Borchardt et al disclose the electronic signal in association with a function of the controlled device comprises retrieving (access) a stored signal.

Regarding claims 42 and 56, Borchardt et al disclose detecting whether the identifying signal (code) is present in the radio frequency signal (in col. 8, lines 5-17, Borchardt et al disclose demodulating the signal, therefore it would have been obvious that the code is detected).

Regarding claims 43 and 57, in col. 8, lines 5-17, Borchardt et al disclose generating an infrared control signal according to the radio frequency signal.

Regarding claims 44 and 58, in Fig. 3, Borchardt et al show transmitting the infrared control signal to the controlled device (102).

Regarding claims 45 and 59, in col. 8, lines 5-35, Borchardt et al disclose generating a second augmented signal (modulated infrared signal) according to the received radio frequency signal.

Regarding claims 46, 60 and 69, Borchardt et al disclose retrieving a second identifying signal from a second code register (in col. 7, lines 23-32, Borchardt et al disclose accessing the code).

Regarding claims 47, 61 and 70, Borchardt et al disclose determining the presence of the second identifying signal in the second augmented signal (in col. 8, lines 5-17, Borchardt et al disclose demodulating the signal, therefore it would have been obvious that the code is detected).

Regarding claims 48, 62 and 71, in col. 6, lines 28-34, Borchardt et al disclose pre-programmed set of codes which is stored prior to receiving an infrared control signal and differ from the claimed invention in that Borchardt et al do not specifically disclose storing the codes in the first and second code registers respectively. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide more than one registers to store the codes. One of ordinary skill in the art would have been motivated to do such in order to increase storage capacity. Furthermore, as discussed above, it would have been obvious to consider the codes as first and second identification signals.

Regarding claims 49 and 63, in col. 6, lines 12-54, Borchardt et al disclose storing codes. It would have been obvious to an artisan of ordinary skill in the art at the

time the invention was made to represent the code as an identifying signal.

Furthermore, it would have been obvious that there exist register to store the codes.

Regarding claims 50 and 64, in col. 6, lines 12-54, Borchardt et al disclose associating the stored first identification signals with controlled devices.

Regarding claim 51, Borchardt et al disclose method for transmitting an infrared control signal to a controlled device, as shown in Fig. 2, comprising:

- (a) receiving an infrared control signal (see col. 6, lines 39-42);
- (b) converting the received infrared control signal to a radio frequency signal (see col. 6, lines 58-61);
- (d) transmitting the radio frequency signal (see col. 6, lines 58-61);
- (e) receiving the radio frequency signal (see col. 6, lines 58-61 and col. 7, lines 63-68 to col. 8, lines 1-4);
- (f) removing the identifying signal (code) from the radio frequency signal (in col. 8, lines 5-9, Borchardt et al disclose that the received radio frequency signal is demodulated or removing the code to be supplied to the output);
- (g) generating an infrared control signal according (in col. 8, lines 9-17, Borchardt et al disclose generating infrared signal); and
- (h) transmitting the infrared control signal to the controlled device (see Fig. 3 and col. 8, lines 9-17).

Borchardt et al differ from the claimed invention in that Borchardt et al do not specifically disclose augmenting the radio frequency signal by adding an identifying signal resulting in an augmented radio frequency signal. However, in col. 8, lines 5-17,



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Borchardt et al disclose receiving and demodulating the radio frequency signal and further pulse modulate (augment) the signal to be supplied to the input of LED. Since the signal is modulated with codes, therefore it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to represent the code as an identifying signal. One of ordinary skill in the art would have been motivated to do such in order to associate signal to a particular device.

Regarding claim 65, Borchardt et al disclose method for transmitting an infrared control signal to a controlled device, as shown in Fig. 2, comprising:

a) providing a memory containing a database of control signals associated with controlled devices (in col. 6, lines 12-54, Borchardt et al disclose storing codes, therefore it would have been obvious that there exist memory containing database to store the codes);

b) designating a desired function of the controlled device (in col. 6, lines 34-38; Borchardt et al disclose a user is enable to select a desired control of the device);

c) retrieving the appropriate control signal from the database (in col. 7, lines 23-32, Borchardt et al disclose accessing the code);

e) generating a radio frequency signal according to the signal (in col. 7, lines 45-62 Borchardt et al disclose generating radio frequency signal);

f) converting the augmented electronic signal to a radio frequency signal (in col. 7, lines 45-62 Borchardt et al disclose generating radio frequency signal, therefore the signal is converted to radio frequency);

g) transmitting the radio frequency signal (in col. 7, lines 45-62 Borchardt et al disclose generating and transmitting radio frequency signal);

h) receiving the radio frequency signal (see Fig. 3 and col. 7, lines 67-68 to col. 8, lines 1-4); and,

i) detecting the presence of the code signal in the augmented signal (in col. 8, lines 5-17, Borchardt et al disclose demodulating the signal, therefore it would have been obvious that the code is detected).

Borchardt et al differ from the claimed invention in that Borchardt et al do not specifically disclose augmenting the IR signal by adding an identifying signal resulting in an augmented electronic signal. However, in col. 7, lines 19-32 and lines 45-62, Borchardt et al disclose that the remote control commands input by the user are used by the microcomputer to access the appropriate code stored and generate a modulated signal. Since the signal is modulated with codes, therefore it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to represent the code as an identifying signal. One of ordinary skill in the art would have been motivated to do such in order to associate signal to a particular device.

Regarding claim 68, Borchardt et al disclose generating a second augmented signal according to the received radio frequency signal (see col. 8, lines 5-17).

Regarding claim 72, in col. 8, lines 5-17, Borchardt et al disclose generating an infrared control signal according to the augmented (modulated) radio frequency signal.

Regarding claim 73, in col. 8, lines 5-17, Borchardt et al disclose transmitting the infrared control signal to the controlled device (see Fig. 3).

***Allowable Subject Matter***

6. Claims 1-36 are allowed.

7. The following is an examiner's statement of reasons for allowance:

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

Claim 1 is allowed because the prior art of record, US Patent No. 5,383,044 to Borchardt et al does not teach or fairly disclose transmitter comprising of a multiplexer for combining the first electrical signal and the first identification signal into a first augmented electrical signal; and a receiver capable of being placed in infrared control signal communication with a controlled device, the receiver comprising of a second multiplexer in communication with the code detector for removing the second identification signal from the second augmented signal, leaving a second electronic signal.

Claim 19 is allowed because the prior art of record, US Patent No. 5,383,044 to Borchardt et al does not teach or fairly disclose transmitter comprising a multiplexer for combining the first radio signal and the first identification signal into an augmented radio signal; and one or more receivers capable of being placed in infrared control signal communication with a controlled device, the receiver comprising a second multiplexer in communication with the code detector for removing the second identification signal from the augmented radio signal, leaving a second radio signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Harrington (US Patent No. 4,897,883) is cited to show infrared remote control apparatus.

Imajo (US Patent No. 6,897,883) is cited to show relay system.

Herz (US Patent No. 6,407,779) is cited to show method and apparatus for an intuitive universal remote control system.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272--3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DS

August 9, 2005

*David Singh*